

IN THE CLAIMS

1. (Currently Amended) A method for making a hypermutable cell, comprising the step of: introducing into a plant cell a polynucleotide comprising a dominant negative allele of a ~~mammalian~~ human *PMS2* mismatch repair gene, wherein said dominant negative allele comprises a truncation mutation at codon 134, and whereby the cell becomes hypermutable.

2. (Original) The method of claim 1 wherein the polynucleotide is introduced by transfection of a suspension of plant cells *in vitro*.

3-16. (Canceled)

17. (Currently Amended) The method of claim 1 wherein said ~~allele is a human *PMS2*, and wherein the~~ truncation is due to a thymidine at nucleotide 424 of wild-type human *PMS2*.

18. (Previously Presented) The method of claim 1 wherein the polynucleotide is introduced into a plant cell of a plant seedling.

19. (Previously Presented) The method of claim 18 further comprising: growing said plant seedling into a mature plant.

20-32. (Canceled)

33. (Currently Amended) The method of claim ~~20~~ 19 wherein said human *PMS2* comprises a truncation due to a thymidine at nucleotide 424 of wild-type human *PMS2*.

34. (Currently Amended) A homogeneous composition of cultured, hypermutable, plant cells which comprise a dominant negative allele of a ~~mammalian~~ human *PMS2* mismatch repair gene, wherein said dominant negative allele comprises a truncation mutation at codon 134.

35-45. (Canceled)

46. (Previously Presented) The homogeneous composition of claim 34 wherein the cells express a protein consisting of the first 133 amino acids of human PMS2.

47. (Currently Amended) A hypermutable transgenic plant wherein at least 50% of the cells of the plant comprise a dominant negative allele of a ~~mammalian~~ human PMS2 mismatch repair gene, wherein said dominant negative allele comprises a truncation mutation at codon 134.

48-55. (Canceled)

56. (Previously Presented) The hypermutable transgenic plant of claim 47 wherein said dominant negative allele encodes the first 133 amino acids of human PMS2.

57-76. (Canceled)

77. (Previously Presented) A hypermutable transgenic plant made by the method of claim 19.

78-84. (Canceled)

85. (Currently Amended) The hypermutable transgenic plant of claim ~~79~~ 77 wherein said human PMS2 comprises a truncation due to a thymidine at nucleotide 424 of wild-type human PMS2.

86-125. (Canceled)